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IMPLEMENTATION PLAN REVIEW FOR FLORIDA REQUIRED BY THE ENERGY SUPPLY AND ENVIRONMENTAL COORDINATION ACT

Argonne National Laboratory

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16. ABSTRACT

Section IV of the Energy Supply and Environmental Coordination Act of 1974, (ESECA) requires EPA to review each State Implementation Plan (SIP) to determine if revisions can be made to control regulations for stationary fuel combustion sources without interfering with the attainment and maintenance of the national ambient air quality standards. This document, which is also required by Section IV of ESECA, is EPA's report to the State indicating where regulations might be revised.

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FOR
FLORIDA
REQUIRED BY THE ENERGY SUPPLY AND ENVIRONMENTAL COOPDINATION ACT

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IMPLEMENTATION PLAN REVIEW

FOR FLORIDA

REQUIRED BY THE ENERGY SUPPLY AND ENVIRONMENTAL COORDINATION ACT

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IMPLEMENTATION PLAN REVIEW
FOR FLORIDA
REQUIRED BY THE ENERGY SUPPLY AND ENVIRONMENTAL COORDINATION ACT

1.0 EXECUTIVE SUMMARY

The enclosed report is the U.S. Environmental Protection Agency's (EPA's) response to Section IV of the Energy Supply and Environmental Coordination Act of 1974 (ESECA). Section IV requires EPA to review each State Implementation Plan (SIP) to determine if control regulations for stationary fuel combustion can be revised without interfering with the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS). In addition to requiring that EPA advise the state as to whether control regulations can be revised, ESECA provides that EPA must approve or disapprove any revised regulations relating to fuel burning stationary sources within three months after they are submitted to EPA by the states. The states may, as under the Clean Air Act of 1970, initiate State Implementation Plan revisions; ESECA does not, however, require states to change any existing plan.

Congress has intended that this report provide the state with information on excessively restrictive control regulations. The intent of ESECA is that SIPs, wherever possible, be revised in the interest of conserving low-sulfur fuels or converting to coal sources which burn oil or natural gas. EPA's objective in carrying out the SIP reviews, therefore, has been to try to determine if emissions from certain combustion sources may be increased without interfering with the attainment and maintenance of standards. If so, it may be possible through altered resource allocations to effect significant "clean fuel savings" in a manner consistent with both environmental and national energy needs.

In many respects, the ESECA SIP reviews parallel the implementation of EPA's policy on clean fuels. Under the Clean Fuels Policy, implementation plans have been reviewed with a view to saving low sulfur fuels. Where the primary sulfur dioxide air quality standards will not be exceeded, states have been encouraged to either defer attainment of secondary standards or to revise the SO_2 emission regulations. The states have also been asked to discourage large-scale shifts from coal to oil where this could be done without jeopardizing the attainment and maintenance of the NAAQS.

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To date, this activity has involved only those states with the largest clean fuels savings potentials. Several of these states have revised or are currently in the process of revising their SO_2 regulations. These states are generally in the eastern half of the United States. ESECA, however, requires the analysis of potentially over-restrictive regulations in all 55 states and territories. In addition, the current reviews address the attainment and maintenance of all the National Ambient Air Quality Standards.

The adoption of emission limitations which may, in some areas of states, be overly restrictive (or not restrictive enough) resulted largely from the use of the "example region" approach along with analyses which considered the "hot spots" of an Air Quality Control Region (AQCR) rather than the entire region. This type of approach was offered in EPA guidelines for plan development when states were preparing their original plans. Many states, through concurrence with EPA, adopted the example region approach, largely because of the short timetable dictated by the Clean Air Act. Also, in most cases, the original SIPs were designed to attain and maintain the original NAAQS, some of which have since been designated as "guides" only or actually rescinded. However, many states adopted and retained the original federal standards or, in a few cases, adopted more restrictive state standards, and these served as the bases on which their SIPs were approved. As a result, the requirements of many state plans conflict with legitimate national energy concerns, and thus a review of the State Implementation Plans is a logical follow-up to EPA's initial appraisal (1972) of the SIPs. At the time, SIPs were approved by EPA if they demonstrated the attainment of the original NAAQS or the more stringent state air quality standards. Also, at that time an acceptable method for formulating control strategies was the use of an example region for demonstrating the attainment of the standards.

The example region concept permitted a state to identify the most polluted air quality control region and adopt control regulations which would be adequate to attain the NAAQS in that region. In using an example region, it was assumed that NAAQS would be attained in the other AQCRs of the state if the control regulations were applied to similar sources. But use of an example region can result in excessive controls, especially in the utilization of clean fuels, for areas of the state where sources would not

otherwise contribute to NAAQS violations. For example, a control strategy based on a particular region or source can result in a regulation requiring 1 percent sulfur oil to be burned statewide, even though the use of 3 percent sulfur coal would be adequate to attain NAAQS in some locations.

EPA anticipates that a number of states will use the review findings to assist them in deciding whether or not to revise portions of their State Implementation Plans. However, it is most important for such states to recognize the limitations of the present review. The findings of this report are by no means conclusive and are neither intended nor adequate to be the sole basis for SIP revisions; they do, however, represent EPA's best judgment and effort in complying with the ESECA requirements. The time and resources which EPA has had to prepare the reports has not permitted the consideration of growth, economics, and control strategy tradeoffs. Also, there has been only limited dispersion modeling data available by which to address individual point source emissions. Where the modeling data for specific sources was found, however, it was used in the analysis.

The data upon which the reports' findings are based is the most currently available to the federal government. However, EPA believes that the states possess the best information for developing revised plans. The states have the most up-to-date air quality and emissions data, a better feel for growth, and the fullest understanding for the complex problems facing them in the attainment and maintenance of air quality. Therefore, those states desiring to revise a plan are encouraged to verify and, in many instances, expand the modeling and monitoring data used to support EPA's findings. States are encouraged to consider the overall impact which the potential relaxation of overly restrictive emissions regulations for combustion sources might have on their future control programs. This may include air quality maintenance, prevention of significant deterioration, increased TSP, NO_x, and HC emissions which occur in fuel switching, and other potential air pollution situations.

Although the enclosed analysis has attempted to address the attainment of all the NAAQS, most of the review has focused on total suspended particulate matter (TSP) and sulfur dioxide (SO_2) emissions. This is because stationary fuel combustion sources constitute the greatest source of SO_2 emissions and are a major source of TSP emissions.

The following are the principal findings for the State of Florida. (Air Quality Control Regions are displayed in Figure I-1.)

- The state has adopted the federal secondary ambient air quality standards for particulates except in Dade, Broward and Palm Beach Counties. In these counties more stringent standards have been adopted. The ambient air quality standards for SO_2 are equivalent to the original federal secondary standards which have since been rescinded. The standards are substantially more restrictive in Dade, Broward and Palm Beach Counties.

- Control strategies for particulates and SO_2 were developed using the example region approach. SIP revisions are currently in progress which would base emission limits on local constraints rather than "worst region" considerations. The state had incorporated a variance procedure into its regulations which would modify emission limits upon receipt of substantiating documentation of unavailability of low sulfur content fuel. However, this provision expired July 1, 1974. This procedure could have been used to establish emission limits that are more reflective of local conditions.

- Based on this limited analysis there appears to be little room for relaxation of particulate emission regulations. Only Central Florida (#48) and Southwest Florida (#51) demonstrate any potential margin for absorbing increased emissions. All other regions have high TSP readings (based on 1973 data) and no tolerance for emission increases.

- Within the framework of this limited analysis the indications are that Florida could consider relaxing its SO_2 emission limits to permit the burning of higher sulfur oil in all regions except Jacksonville-Brunswick and West Central Florida. Significant savings of low sulfur oil can be achieved through this revision, some of which might be diverted to the above two regions to relieve their SO_2 problems.

- Of 40 power plants scheduled to be on-line in 1975 only 5 have coal-burning capability. The remainder are oil- and gas-fired. There are no significant industrial/commercial/institutional sources using coal; all are using oil and gas. Therefore, the major impact of regulation relaxation on clean fuels conservation will be reduced requirements for low sulfur oil.

- Fuel conversions from oil to coal will have little impact on oil conservation. To date only the Crystal River power plant in Inglis have been identified as having potential coal conversion capability. In addition, increased use of coal would have to be accompanied by addition of control equipment to meet particulate emission regulations.

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Figure 1-1. Florida Air Quality Control Regions (AQCR)

2.0 FLORIDA STATE IMPLEMENTATION PLAN REVIEW

2.1 SUMMARY

A revision of fuel combustion source emissions regulations will depend on many factors. For example:

- Does the state have air quality standards which are more stringent than NAAQS?
- Does the state have emission limitations regulations for control of (1) power plants, (2) industrial sources, (3) area sources?
- Did the state use an example region approach for demonstrating the attainment of NAAQS or more stringent state standards?
- Has the state initiated action to modify combustion source emission regulations for fuel savings; i.e., under the Clean Fuels Policy?
- Are there any proposed Air Quality Maintenance Areas?
- Is there an expected 1975 attainment date for NAAQS?
- Based on (1973) air quality data, are there indications of a tolerance for increasing emissions?
- Are the total emissions from stationary fuel combustion sources a relatively small portion of the regional total?
- Do modeling results for specific fuel combustion sources show a potential for a regulation revision?
- Is there a significant clean fuels savings potential in the region?
- Must the regulations be revised to accomplish significant fuel switching?

The following portion of this report is directed at answering those questions. Based on an overall evaluation of EPA's current information, AQCR's have been classified as good, marginal, or poor candidates for regulation revisions. Table 2-1 summarizes the State Implementation Plan Review. The remaining portions of the report support this summary with explanations.

Table 2-1. State Implementation Plan Review Summary for Florida

"INDICATORS"	State		Mobile-Pensacola[a] AQCR #5		Central Florida AQCR #48		Jacksonville-Brunswick AQCR #49		Southeast Florida AQCR #50	
	TSP	SO_2	TSP	SO_2	TSP	SO_2	TSP	SO_2	TSP	SO_2
• Does the State have air quality standards which are more stringent than NAAQS?[b]	YES	YES								
• Does the State have emission limiting regulations for control of: 1. Power plants 2. Industrial sources 3. Area sources	YES YES NO	YES YES NO								
• Did the State use an example region approach for demonstrating the attainment of NAAQS or more stringent State standards?	YES	YES								
• Has the State initiated action to modify combustion source emission regulations for fuel savings; i.e., under the Clean Fuels Policy?[c]	NO	YES								
• Are there any proposed Air Quality Maintenance Areas?			NO	NO	NO	NO	YES	YES	NO	NO
• Are there indications of a sufficient number of monitoring sites within a region?			YES	YES	YES	NO	YES	YES	YES	YES
• Is there an expected 1975 attainment date for NAAQS?[d]			YES	YES	YES	YES	YES	YES	YES	YES
• Based on (1973) Air Quality Data, are there any reported violations of NAAQS?			YES	NO	NO	NO	YES	YES	YES	NO
• Based on (1973) Air Quality Data, are there indications of a significant tolerance for increasing emissions?			NO	YES	YES	YES	NO	NO	NO	YES
• Are the emissions from stationary fuel combustion sources a relatively small portion of the regional total?			YES	NO	YES	NO	YES	NO	NO	NO
• Do modeling results for specific fuel combustion sources show a potential for a regulation revision?			N.A.	YES	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
• Is there a significant Clean Fuels Saving potential in the region?			YES		YES		NO		YES	
• Must the regulations be revised to accomplish significant fuel switching?			YES		YES		YES		YES	
• Based on the above indicators, what is the potential for revising fuel combustion source emission limiting regulations?			TSP - Poor SO_2 - Good		TSP - Good SO_2 - Good		TSP - Poor SO_2 - Poor		TSP - Poor SO_2 - Good	

Table 2-1. State Implementation Plan Review Summary for Florida (Contd.)

"INDICATORS"	Southwest Florida AQCR #51		West Central Florida AQCR #52	
	TSP	SO_2	TSP	SO_2
• Does the State have air quality standards which are more stringent than NAAQS?				
• Does the State have emission limiting regulations for control of: 1. Power plants 2. Industrial sources 3. Area sources				
• Did the State use an example region approach for demonstrating the attainment of NAAQS or more stringent State standards?			Example Region	
• Has the State initiated action to modify combustion source emission regulations for fuel savings; i.e., under the Clean Fuels Policy?				
• Are there any proposed Air Quality Maintenance Areas?	NO	NO	YES	YES
• Are there indications of a sufficient number of monitoring sites within a region?	YES	NO	YES	YES
• Is there an expected 1975 attainment date for NAAQS?	YES	YES	YES	YES
• Based on (1973) Air Quality Data, are there any reported violations of NAAQS?	NO	NO	YES	YES
• Based on (1973) Air Quality Data, are there indications of a significant tolerance for increasing emissions?	YES	YES	NO	NO
• Are the emissions from stationary fuel combustion sources a relatively small portion of the regional total?	NO	NO	NO	NO
• Do modeling results for specific fuel combustion sources show a potential for a regulation revision?	N.A.	N.A.	N.A.	YES
• Is there a significant Clean Fuels Saving potential in the region?	YES		YES	
• Must the regulations be revised to accomplish significant fuel switching?	YES		YES	
• Based on the above indicators, what is the potential for revising fuel combustion source emission limiting regulations?	TSP - Good SO_2 - Good		TSP - Poor SO_2 - Poor	

[a] Interstate

[b] In Dade, Broward, and Palm Beach Counties, more stringent SO_2 standards were adopted through public demand. The state's SO_2 secondary standards of 60 $\mu g/m^3$ (annual) and 260 $\mu g/m^3$ (24-hr) were adopted to coincide with EPA NAAQS at the time. Since then, EPA has rescinded all but the three hour secondary standard of 1300 $\mu g/m^3$.

[c] Scheduled for early 1975.

[d] Based on supplemental data from local sources

2.2 AIR QUALITY SETTING FOR THE STATE OF FLORIDA

2.2.1 Florida Air Pollution Control Areas

The State of Florida is divided into six Air Quality Control Regions: four intrastate and two interstate (Fig. 1-1). Table 2-2 shows population to be highest in Southeast Florida (#50) and Mobile-Pensacola (#5). Based on growth projections for the state, 4 counties have been proposed as Air Quality Maintenance Areas (AQMAs) for particulates and for sulfur dioxide. These are Polk, Hillsborough, and Pinellas Counties in West Central Florida (#5) and Duval County in Jacksonville-Brunswick (#49).

2.2.2 Florida Ambient Air Quality Standards

As shown on Table 2-3, with the exception of Dade, Broward, and Palm Beach Counties in Southeast Florida (#50), the state has adopted the federal secondary National Ambient Air Quality Standards (NAAQS) for annual and 24-hour particulate concentrations and 3-hour SO_2 concentration. Standards equal to the original federal secondary annual and 24-hour SO_2 concentrations have also been adopted. The EPA has since rescinded these standards and maintained only the 3-hour secondary standard for SO_2. The state may consider following this same procedure. For Dade, Broward, and Palm Beach Counties, the annual particulate standard is somewhat more stringent than the federal limit, and the 24-hour standard must be met for all periods. The SO_2 standards are substantially more stringent than federal standards. These were adopted as a result of public hearings held during the Implementation Planning Program. Strategies designed to achieve these standards would, of necessity, have to be more restrictive than those designed for federal standard attainment. The following analysis will address attainment of the federal NAAQS only.

2.2.3 Florida Air Quality Status

Based on the 1973 data in the SAROAD (Storage and Retrieval of Aerometric Data) system, only Central Florida (#48) and Southwest Florida (#51) are not showing violations of the particulate standards. It should be noted that these two regions have only a limited number of stations reporting and the data may not be representative. Indications are that the

Table 2-2. Florida Air Pollution Control Areas

Air Quality Control Region	Federal Number	Demographic Information: 1970 Population (Millons)	Demographic Information: Area (thousand sq. mi.)	Demographic Information: Population Density (people per sq. mi.)	Priority Classification: Particulates	Priority Classification: SO_x	Priority Classification: NO_x	Proposed AQMA Designations[a]: TSP Counties	Proposed AQMA Designations[a]: SO_x Counties
Mobile-Pensacola-Panama City-Southern Mississippi (Ala., Miss.)	5	2.1	33.6	63	1	1	3	(0)	(0)
Central Florida	48	.9	5.6	167	2	3	3	(0)	(0)
Jacksonville-Brunswick (Ga.)	49	1.3	24.2	55	1	2	3	(1) Duval	(1) Duval
Southeast Florida	50	2.4	8.7	279	2	3	3	(0)	(2)
Southwest Florida	51	.4	7.7	46	3	3	3	(0)	(0)
West Central Florida	52	1.5	8.0	189	1	1	3	(3) Polk, Hillsborough, Pinellas	(3) Polk, Hillsborough, Pinellas

[a]As of November 26, 1974.

Table 2-3. Florida Ambient Air Quality Standards

		All concentrations in µgms/m³							
		Total Suspended Particulate		Sulfur Dioxide					Nitrogen Dioxide
		Annual	24 Hr	Annual	24-Hr	3-Hr	4-Hr	1-Hr	Annual
Federal	Primary	75(G)	260[a]	80(A)	365[a]	---	---	---	100(A)
	Secondary	60(G)	150[a]	---	---	1300[a]	---	---	100(A)
State	Except Dade, Broward, Palm Beach Counties	60(G)	150[a]	60(A)[b]	260[a,b]	1300[a]	---	---	100(A)
Dade, Broward, Palm Beach Counties		50	180	8.6(A)	28.6	---	57.2	286	100(A)

[a] Not to be exceeded more than once per year.

[b] Was adopted based on original EPA policy which was rescinded July, 1973.

(A) Arithmetic mean

(B) Geometric mean

severest problems are in Jacksonville-Brunswick (#49) and Mobile-Pensacola (#5) requiring large emission reductions to meet the secondary NAAQS. Based on the 1973 emissions data, the indications are that relaxation of particulate emission regulations will not be possible without hindering NAAQS attainment and maintenance.

Based on 1973 air quality data in the SAROAD system, Jacksonville-Brunswick (#49) is the only region showing an SO_2 violation. Additional data from local sources indicates that there are high SO_2 readings reported in Hillsborough County in West Central Florida (#52) also. The exceptionally low SO_2 concentrations in Southwest Florida (#51) and Central Florida (#48) are suspect in that only one station is reporting in each region. Notwithstanding the lack of comprehensive SO_2 air quality data in all regions, the apparent ability of 4 out of 6 regions to absorb increases in SO_2 concentrations without violating the NAAQS is encouraging from the perspective of clean fuels conservation. The indication is that there is a tolerance for regulation relaxation; however, the state would have to review all existing air quality data prior to changing any regulations.

2.2.4 Florida Emissions Summary

Regionwide, Florida fuel combustion sources are contributing 31% of the particulate and 84% of the SO_2 emissions. Based on rollback calculations, control of particulate emissions from these sources alone will probably not be sufficient to attain the NAAQS in the 4 regions requiring air quality improvement. The implication is that any particulate regulation relaxation for fuel combustion sources in these areas should be accompanied by a corresponding regulation tightening on other sources in order to achieve the necessary reduction of emissions. In Central Florida (#48) and Southwest Florida (#51), the limited data indicate a possible tolerance for emission increase. This is supported by the fact that these two regions have the lowest TSP emission rates in the state.

The data review shows that all regions except Jacksonville-Brunswick (#49) and West Central Florida (#52) can tolerate SO_2 emission increases. Since Florida fuel combustion sources make up no less than 75% of the SO_2 emissions in every region, regulation relaxation must proceed cautiously to avoid jeopardizing NAAQS attainment. Although the data indicate a significant margin for relaxation, it should be reemphasized that this is based on

limited air quality data and a more thorough analysis would be required to determine the actual allowable emission increase.

Comparison of the emissions from various source categories indicates that power plants and industrial/commercial/institutional point sources are roughly equivalent in their contributions to the state's particulate emission load although one or the other may dominate in individual regions. Any regulation revisions must, therefore, consider both categories on an equivalent basis. Area sources are not significant sources in any region. For SO_2, the power plants are overwhelming in their contribution. It can, therefore, be said that regulation revisions for power plants will have the primary impact on regional SO_2 air quality. As before, area sources are not significant sources.

2.2.5 Power Plant Modeling

Only very limited modeling data was available for Florida power plants. Table 2-4 gives a summary of potential clean fuel savings based on the available information. In Mobile-Pensacola (#5) there is significant low sulfur coal savings potential. The data in West Central Florida region (#52) is based on the Crystal River plant.

2.3 BACKGROUND ON THE DEVELOPMENT OF THE CURRENT STATE IMPLEMENTATION PLAN

2.3.1 General Information

The Florida State Implementation Plan proposed control strategies for particulates and SO_2 based on example region calculations for the West Central Florida AQCR (#52). This region was chosen because of the high TSP and SO_2 concentrations measured in Hillsborough County in 1970 and because of the diversity of emission sources. (Hillsborough County contains the city of Tampa.) Control strategy development was predicated on the assumption of a "no growth" policy in Hillsborough County which would minimize the influx of new industrial sources. Growth of commercial, institutional, and residential sources was anticipated to have little TSP and SO_2 air quality impact since natural gas would be the primary fuel

Table 2-4. Florida Power Plant Evaluation Summary

SO_2

AQCR	Fuel	1975 Fuel Required by Existing Regulations[a] < 1%	1-2%	2-3%	> 3%	1975 Fuel Required by Modified Regulations[b] < 1%	1-2%	2-3%	> 3%
5[c]	Coal	2,782	218						
	Oil	46,769	197				218	2,011	771
	Gas	21,143				NA	NA		
48	Coal								
	Oil	198;575	199,641			No modeling results available.			
	Gas	50,732							
49[c]	Coal								
	Oil	612,948	166,992			No modeling results available.			
	Gas	13,026							
50	Coal								
	Oil	33,080	727,301			No modeling results available.			
	Gas	97,342							
51	Coal								
	Oil		173,376			No modeling results available.			
	Gas	1,718							
52	Coal	4,945							
	Oil	222,633	548,838			4,237			
	Gas					222,633			708[d]
Florida Total	Coal	7,727	218						
	Oil	1,114,005	1,816,345			Incomplete data.			
	Gas	183,961							

[a] Fuel requirements based on 1971 fuel use patterns at 1975 consumption rates. Coal in 10^3 tons/yr, oil in 10^3 gals/yr, gas in 10^6 ft^3/yr.

[b] Maximum allowable % S is 1971 % S unless modeling indicates a lower value. Data from Modeling Analyses of Power Plants for Compliance Extensions in 51 Air Quality Control Regions, U.S.EPA, Walden Div. Abcor, Inc., Dec. 17, 1972.

[c] Interstate.

[d] Data from Modeling Analysis of Power Plants for Fuel Conversion, U.S.E.P.A., Walden Research Division of Abcor Inc. June 1974.

used. Based on the air quality in other regions in Florida, normal growth was not expected to create any problems in TSP and SO_2 NAAQS attainment and the control strategies developed for West Central Florida would be adequate to meet the standards.

2.3.2 Particulate Control Strategy

The particulate control strategy required approximately 40% reduction in TSP emissions in the example region. This was achieved through the application of a 60% emission control by potential sources and a 90% control of fugitive dust emissions. (The SIP inventory showed that approximately 40.4% of the regional TSP emissions came from a limited number of fugitive dust sources.) EPA considered the fugitive dust regulations to be enforceable and hence accepted the presented strategy as valid.

Separate rollback calculations were performed for Dade, Broward, Palm Beach, and Polk Counties. These calculations showed attainment of the NAAQS.

2.3.3 Sulfur Oxide Control Strategy

Several SO_2 control strategies were evaluated and the chosen one demonstrated an emission reduction of 67.7% from 1970 SO_2 air quality levels. The "no growth" policy in Hillsborough County along with the emission limit regulations showed NAAQS attainment.

Separate calculations were carried out for Polk, Dade, Broward, and Palm Beach Counties. A no-growth policy was adopted for Palm Beach County to assure NAAQS attainment there, while the other counties showed attainment under normal growth conditions.

2.3.4 Control Regulations Summary

Table 2-5 summarizes the Florida fuel combustion emission regulations. Emission limits are applied only to new and existing units of greater than 250×10^6 Btu/hr heat input. All smaller boilers are controlled by the application of "latest reasonably available technology" as determined by the Department of Pollution Control.

Table 2-5. Florida Fuel Combustion Emission Regulations[a]

	Existing Sources		New Sources	
	≤ 250 x 10^6 Btu/hr	> 250 x 10^6 Btu/hr	≤ 250 x 10^6 Btu/hr	> 250 x 10^6 Btu/hr
SO_2[b]	Latest reasonably available technology	1.1 lbs/10^6 Btu for liquid fuel, 2 hour average 1.5 lbs/10^6 Btu for solid fuel, 2 hour average	Latest reasonably available technology.	.8 lbs/10^6 Btu for liquid fuel 2 hour average 1.2 lbs/10^6 Btu for solid fuel 2 hour average
Particulates	Opacity of Ringelmann #1; Ringleman #2 permitted for 2 minutes per hour.		Opacity of Ringelmann #1; Ringelmann #2 permitted for 2 minutes per hour.	
	Latest reasonably available technology	.1 lbs/10^6 Btu, 2 hr average	Latest reasonably available technology	.1 lbs/10^6 Btu, 2 hr average

[a]Applied to fossil fuel steam generators.

[b]A variance procedure is included in the regulations (Section 17-2.11) which gives the Florida Department of Pollution Control authority to modify sulfur oxide emission limits for fossil fuel steam generators upon receipt of sufficient evidence documenting the unavailability of low sulfur fuels.

As written, the regulations do not allow the meeting of emission standards by fuel switching from coal to oil since a different limit applies to each fuel use. Also, the limit must be met on a 2-hour average and cannot be weighted over annual consumption rates. Fuel switching is a compliance method only when the change is made to gas for which there is no emission limit. In most cases, the combustion of oil will not require controls to meet the particulate emission limitation.

The Florida Department of Pollution Control had a variance procedure to deal with the unavailability of low sulfur fuel. Upon receipt of appropriate supporting documentation, the Department could modify emission limits for a given facility to enable it to use a higher sulfur content fuel. However, this provision expired on July 1, 1974 after seeing only limited use during the winter fuel shortage of 1973-74.

Within the framework of this review the existing Florida regulations are not incompatible with the requirements for clean fuels conservation. No restrictions are placed on smaller fuel combustion sources, and the variance procedure could be reincorporated into the regulatory process. This would give the state sufficient flexibility to adjust to fluctuating clean fuels availability.

2.4 SPECIAL CONSIDERATIONS FOR THE STATE OF FLORIDA

2.4.1 Planned SIP Revisions

There are now three formal revisions to the Florida SIP in progress. Revision to sulfuric acid plant emission limits in Jacksonville-Brunswick (#49), and proposed sulfur recovery controls are planned which could increase SO_2 levels, thus reducing some of the potential for gaining clean fuel leverage. A third revision (in the planning stages) deals with addressing the clean fuels policy and is expected to begin full scale study in early 1975.

2.4.2 Fuels

Florida is not a heavy user of coal. Most of the state's fossil fuel is in the form of oil and natural gas. Power plant Btu consumption averages about 17% from coal, 45% from oil and 38% from gas. Proximity

to the Gulf Coast oil and gas supplies virtually assures continued consumption of these fuels in preference to coal. Thus, while the air quality data indicates a tolerance for SO_2 emission increases, the fuel consumption patterns indicate that only a small low sulfur coal savings would be effected through regulation relaxation. However, there is a potential for the conservation of some low sulfur oil. While this is not as pressing a constraint on clean fuels availability as is low sulfur coal, the processing of oil to a lower sulfur content requires additional refining steps which result in increased fuel costs. Also, to achieve a lower sulfur fuel oil the mix of remaining by-products from the refinery is altered. This change often represents an economic penalty.

2.4.3 Potential Fuel Conversions

The Federal Energy Administration has identified only one power plant in the State of Florida as having the necessary equipment to be able to convert from oil to coal; that is the Crystal River plant in Inglis (West Central Florida AQCR, #52). Of the remaining 39 plants scheduled to be on-line in 1975, only 4 will have the capability to burn coal. Hence fuel conversions are not expected to have an impact on clean fuel conservation.